

**Notice of Allowability**

Application No.

10/690,766

Applicant(s)

ANJANAPPA ET AL.

Examiner

John T. Haran

Art Unit

1733

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--**

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 6/20/05.
2. ☒ The allowed claim(s) is/are 1-5, 8-11 and 13-20.
3. ☒ The drawings filed on 10/22/03 are accepted by the Examiner.
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) ☐ All    b) ☐ Some\*    c) ☐ None    of the:
    1. ☐ Certified copies of the priority documents have been received.
    2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
  6. ☐ CORRECTED DRAWINGS ( as "replacement sheets") must be submitted.
    - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review ( PTO-948) attached
      - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
    - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.
- Identifying Indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO-1449 or PTO/SB/08),  
Paper No./Mail Date \_\_\_\_\_
4. ☐ Examiner's Comment Regarding Requirement for Deposit  
of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☒ Interview Summary (PTO-413),  
Paper No./Mail Date 8/4/05.
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other \_\_\_\_\_.

John T. Haran  
Primary Examiner  
Art Unit: 1733

### EXAMINER'S AMENDMENT

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

2. Authorization for this examiner's amendment was given in a telephone interview with Mr. Clifford Kraft on 8/4/05.

3. The application has been amended as follows:

**In The Specification:**

On page 1, line 18, delete "TERFENOD-D" and insert therein - - TERFENOL-D -

**In The Claims:**

Cancel claim 6.

Cancel claim 7.

Cancel claim 12.

In claim 18, delete "firther" and insert therein - - further - -.

4. Claims 1-5, 8-11 and 13-20 are allowed. It is noted that the restriction requirement is withdrawn.

5. The following is an examiner's statement of reasons for allowance:

Regarding claim 1, the prior art of record fails to suggest the claimed method of producing a magnetostrictive actuator, particularly placing a first film of a UV curable

Art Unit: 1733

polymer and magnetostrictive material mixture on a film, partially curing the polymer and then placing a second film of UV curable polymer on the partially cured layer.

Regarding claim 8, the prior art of record fails to suggest the claimed method of forming a magnetostrictive actuator, particularly aligning magnetostrictive material in one direction with a magnetic field, curing at least one portion of the polymer, aligning magnetostrictive material in uncured regions of the polymer in a second direction with a magnetic field, and curing at least one second region of the polymer whereby two regions of cured polymer are created with magnetostrictive material aligned in at least two different directions.

Regarding claim 14, the prior art of record fails to suggest the claimed method of producing a magnetostrictive actuator, particularly placing a first polymer film containing magnetostrictive material on a glass side, curing at least a portion of the polymer, placing a second polymer layer on said first polymer layer and curing the second polymer layer.

Martin et al (U.S. Patent 6,391,393) teaches a method of making a field structure composite wherein magnetostrictive particles are dispersed into a UV polymerizable polymer (Column 3, lines 20-35). A film of such a mixture is formed on a support, the film is subjected to a magnetic field, the film is polymerized, then portions of the polymerized field are subjected to another magnetic field resulting in portions of the polymerized polymer having the magnetostrictive material aligned in two different directions (Column 6, lines 25-43; Figure 1). There is no suggestion to modify the process to arrive at the claimed methods.

Art Unit: 1733

Anjanappa ("Magnetostrictive particulate actuators: configuration, modeling and characterization," Smart Material Structures, 1997, 6, 393-402) teaches making magnetostrictive actuators from a mixture of polymer and magnetorestrictive material, but there is no suggestion of forming the actuators in claimed manners.

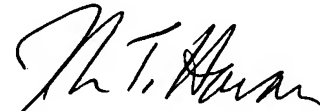
6. Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to John T. Haran whose telephone number is (571) 272-1217. The examiner can normally be reached on M-Th (8 - 5) and alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Blaine Copenheaver can be reached on (571) 272-1156. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Art Unit: 1733

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



John T. Haran  
Primary Examiner  
Art Unit 1733